

Reinforcement

Chapter 4

Sections 4.1– 4.2 Review

BLM 4-1

Goal

Check your understanding of the concepts covered in Sections 4.1 and 4.2.

Procedure

Answer the following questions. Use a separate page to answer questions 2–6.

1 Circle T True, or F False. Rewrite each false statement to make it true.

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|---|---|----|---|
| (a) An object's inertia is directly related to its size. | T | or | F |
| (b) The acceleration due to gravity is greater at Earth's equator than at the Poles. | T | or | F |
| (c) $1 \text{ N} = 1 \text{ kg} \frac{\text{m}}{\text{s}^2}$ | T | or | F |
| (d) Gravity is a non-contact force. | T | or | F |
| (e) A free body diagram shows all action and reaction forces on an object. | T | or | F |
| (f) The force of friction is directly proportional to the normal force. | T | or | F |
| (g) The coefficient of static friction is usually smaller than the coefficient of kinetic friction. | T | or | F |
| (h) The force of gravity on an object is equal to the acceleration due to gravity | T | or | F |

- Distinguish between the mass and the weight of an object.
- A 60 kg man's weight on a planet is 1554 N. Calculate the acceleration due to gravity on this planet.
- Draw a free body diagram of an airplane moving east horizontally at a constant velocity through the air.
- The coefficient of sliding friction between a 100.0 kg wooden crate and a stone floor is 0.4. Calculate the force needed to keep the crate moving east at a constant speed along the floor.
- How did Galileo's concept of motion differ from Aristotle's and Buridan's concept of motion?